THE

AMERICAN JOURNAL

OF THE MEDICAL SCIENCES

FOR OCTOBER 1850.

ART. I.—*Statistics of the Mortality of Baltimore, during a period of fourteen years, from 1836 to 1849 (inclusive).* By LEVIN S. JOYNES, M. D.

HAVING interested myself recently in investigating the mortality of Baltimore, as exhibited in the annual reports of the Board of Health, I have thought it might not be a useless task to lay the results of my investigations before the profession, as a contribution to medical statistics. But it is proper to state at the outset that the materials at my command are far from being as full and perfect as could be wished; so that it is impossible, as yet, to exhibit the "vital statistics" of Baltimore in so satisfactory a manner as has been done for other cities; and in particular for Philadelphia, by Dr. G. Emerson. It is to be hoped that the adoption of a better plan of registration will facilitate the accomplishment, and enhance the value, of future inquiries of this kind; and while the profession, represented by their national association and their State societies, are so anxiously striving to procure legislative action on this subject, it is right that the imperfections of existing systems of registration should be known. Such knowledge cannot but stimulate the zeal, and conduce to the success, of their efforts. The Medical and Chirurgical Faculty of Maryland have earnestly joined in these endeavours for the attainment of an object so important; but although their memorial received the favourable consideration of a committee of the last legislature, the report of that committee did not lead to any enactment on the subject.

There is at present no registration of births or marriages in Baltimore. The statistics of the mortality are derived from the reports of interments, made to the Board of Health, and by them regularly published. In compiling the present paper, I have used the annual reports of the board, from the earliest period for which they could be procured. They embrace a period of fourteen years, beginning with 1836 and ending with 1849. Some of the

more important details, however, are only given in the reports of the last five years. The aggregate number of deaths recorded in this official statement amounts to 41,911.

Before proceeding to analyze the bills of mortality, it is necessary to determine the number and composition of the population to which those documents refer. It is only after knowing the *number living* that we can profitably seek to ascertain the *number dying*, and their various modes of death.

The only enumeration of the inhabitants of Baltimore, during the period embraced in these reports, is that contained in the national census of 1840. The total population of the city at that time was 102,513.

Of this number the males amounted to 47,283

"   "   females   "   55,230

showing an excess in favour of the females of 7947. Thus, in the general population, the proportion of the two sexes is expressed by the numbers 100 : 117, or 20 : 23. This gives a greater female excess than usual; the ordinary proportion stated by writers on medical statistics being 21 females for every 20 males.

But the population of Baltimore is made up of three distinct classes— whites, free coloured persons, and slaves—and we must regard each class separately. The following table exhibits the number of the white population, classed according to sex and age. It also shows the relative proportion of the two sexes at each designated period of life.

	Under 5 years.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 and upwards.	Total.
Males	6338	4498	3930	4216	8525	5728	2953	1556	762	236	70	10	3	38,825
Females	6218	4637	4410	5167	9566	5544	3275	2058	1098	392	107	17	7	42,496
Total at each age .	12556	9135	8340	9383	18091	11272	6228	3614	1860	628	177	27	10	81,321
Excess of Females		139	480	951	1041		322	502	336	156	37	7	4	3671
Excess of Males	120					184								

It appears from this table that, in the white population, amounting in the whole to 81,321, the females outnumber the males by 3671; the proportion of the two sexes being as 100 males to 109 females, or as 20 to 22 (nearly). The preponderance of females, therefore, although less than in the general population, is still greater than is usually found to exist.

It will be seen that the excess of females exists at every period of life designated in the table but two; viz., under five years, and between thirty and forty. The following statement will exhibit the proportional excess of males and females at the different ages. (It is proper to observe that, in this and other comparative statements, I have followed the example of Dr. Emerson in taking the *larger numbers* as the standard of comparison.)

Under	5	years the excess of *males* is	.	.	1.89 per cent.
Between	5 and 10	" " *females*	.	.	3.00 "
"	10 and 15	" " "	.	.	10.88 "
"	15 and 20	" " "	.	.	18.40 "
"	20 and 30	" " "	.	.	10.88 "
"	30 and 40	" " *males*	.	.	3.21 "
"	40 and 50	" " *females*	.	.	9.83 "
"	50 and 60	" " "	.	.	24.39 "
"	60 and 70	" " "	.	.	30.60 "
"	70 and 80	" " "	.	.	39.80 "
"	80 and 90	" " "	.	.	34.58 "
"	90 and 100	" " "	.	.	41.18 "
Over 100		" " "	.	.	57.14 "

The preponderance of males under the age of five years is merely the remnant of that which existed at birth; and the diminution of this excess from 6 or 7 per cent. (the usual ratio at birth) to 1.89 per cent., places in a striking point of view the greater mortality of males during infancy. The continued operation of the same causes soon produces an excess in favour of the females, which increases up to the age of twenty years. Now, however, the increased danger to female life, consequent on child-bearing, produces a change in the opposite direction; the excess of females between the ages of twenty and thirty being little more than half of that which existed in the preceding period; and, between thirty and forty, there is a preponderance of more than three per cent. on the side of the males. In addition to the cause just assigned, this change in the proportion of the sexes is doubtless in part to be accounted for by the large number of young men born elsewhere, who every year take up their residence in the city with the view of engaging in commercial and other pursuits. After the age of forty years, the female preponderance returns, and continues to increase pretty constantly up to the latest period of life—attaining its maximum in the small number remaining above 100 years.

The *coloured population* of Baltimore amounts to 21,192, being something less than twenty-one per cent. of the whole. Of this number there are free, 17,980; slaves, 3212. The following tables exhibit the numbers at the different ages designated in the census, the proportion of the sexes, &c.

Free Coloured Population.

	Under 10 years.	10 to 24.	24 to 36.	36 to 55.	55 to 100.	100 and upwards.	Total.
Males	2172	1873	1590	1279	369	9	7,292
Females . . .	2254	3076	2727	1861	740	30	10,688
Total at each age	4426	4949	4317	3140	1109	39	17,980
Female Excess .	82	1203	1137	582	371	21	3396

Slave Population.

	Under 10 years.	10 to 24.	24 to 36.	36 to 55.	55 to 100.	100 and upwards.	Total.
Males	279	506	225	118	34	4	1166
Females . . .	365	952	453	214	62		2046
Total at each age	644	1458	678	332	96	4	3212
Female Excess .	86	446	228	96	28		880

In examining these tables, the same remarkable inequality in the propor-
tion of the sexes, which Dr. Emerson has found to exist in the coloured popu-
lation of Philadelphia, will be observed to hold good in that of Baltimore;
and the disparity is still more striking among the slaves than among the free
blacks. Thus, while among the latter there are 146 females for every 100
males, among the former the numbers are as 175 and 100 respectively.
This excess of females is already remarkable in the first of the six periods of
life designated in the tables. Of the free coloured population under ten
years, the females exceed the males by nearly four per cent.; and among the
slaves, the female excess is no less than twenty-three and a half per cent.
Now if we refer to the table exhibiting the white population, we shall find
that the number of male children under ten years is 10,836, and that of the
females 10,855; the difference being only nineteen, a very small fraction of
one per cent.

These striking facts appear to lead to the inference that the causes operat-
ing to produce a disproportionate mortality of male infants act with peculiar
intensity upon the coloured population of large towns; and this is easily ex-
plicable by the influence of the unfavourable hygienic conditions by which
this class of the population is, for the most part, surrounded. If, as a result
of this influence, the mortality of the infants of each sex be increased in an
equal ratio, the consequence is an increased disproportion in the numbers of
those remaining. Thus, if in a given number of each sex, say 100, the or-
dinary mortality of the males be represented by 6, and that of the females
by 4, the remaining numbers, 94 and 96, will stand to each other in the re-
lation of 100 to 102 (nearly); but if the mortality of each sex be doubled,
the resulting numbers, 12 and 8, taken from 100, will leave 88 and 92 as
the surviving numbers; now these numbers stand to each other in the rela-
tion of 100 to 104½.

This is one probable explanation of the facts; but the records of mortality
do not furnish the means of either demonstrating or disproving its correctness.
Another view of the matter, however, suggests itself, which would form the
subject of interesting inquiry under a well-conducted registration of births. Is
the excess of male births among the negro population of large towns equal to
that which is generally observed among whites? There is plausible ground
for the conjecture that it is not. In Dr. Emerson's interesting paper "On

the causes operating in determining the proportion of the sexes at birth," contained in the number of this Journal for July, 1848, the following passage occurs (p. 83): " An attentive inspection of the very extensive reports made in several of the most enlightened countries of Europe, has proved to us most conclusively, that every influence operating in a community to maintain a high state of physical health and energy, leads to an increase in the proportion of male births; whilst, on the contrary, every agency, whether moral or physical, the effect of which may be to reduce the forces of organic life, will diminish such preponderance." Now such agencies, especially those of the physical class, which, combined together, constitute an unfavourable sanitary condition, are constantly operating upon the negro population of cities with much greater intensity than upon the mass of the white population. Their effects are conspicuously manifested in the higher rate of mortality existing among the former; and, according to the general law expressed in the above quotation, they should also operate to diminish the preponderance of male births.

It appears highly probable, therefore, that a smaller proportion of male births, and a higher infantile mortality, combine to produce the very remarkable disproportion which is found to exist in early life between the males and females of the coloured population. In the subsequent periods of life, other causes are no doubt brought into play, which tend to maintain and augment this disproportion—such as the greater demand for the labour of males in agricultural districts, whilst a larger number of females find employment in town as house-servants. A glance at the tables will suffice to show how great is the preponderance of females.

If we compare the different classes of the population with reference to *longevity*, we shall find the advantage very greatly in favour of the coloured inhabitants. In this respect, our tables furnish results entirely in accordance with those deducible from the census of the country at large. Among the white inhabitants, the proportion of those who have attained the age of 100 and upwards is 1 in 8,132; among the coloured inhabitants, it is 1 in 493; and, if we regard the free coloured and the slaves separately, the proportions are 1 in 461 and 1 in 803 respectively. We have here another illustration of a truth already well established by statistics—that there is no constant ratio between longevity and the ratio of mortality; for that class of the population of Baltimore which offers the lowest rate of mortality, contains the smallest proportional number of centenarians, and *vice versâ* (taking the coloured population as a whole). Probably, owing to the difficulty of determining the ages of the blacks, there is some exaggeration in the number of those who have attained an advanced age; but, making all due allowance on this score, the greater longevity of the negro race appears sufficiently well established.

If we institute a comparison between the two sexes in this respect, we find a much greater proportion of females than of males aged 100 and upwards,

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If we institute a comparison between the two sexes in this respect, we find a much greater proportion of females than of males aged 100 and upwards,

both in the white and the free coloured population. Among the slaves, the reverse holds good.

Mortality.—We have now to consider the mortality of the population of Baltimore, during a period embracing four years preceding, and nine following, that in which the census just analyzed was taken—making in all, with the year 1840 itself, a period of fourteen years. The following table gives the number of interments of each sex in the general population, in each of the fourteen years; it also shows the number belonging to each of the three classes of the population.

Years.	General Population.			White Population.	Coloured Population.		
	Males.	Females.	Total.		Free.	Slaves.	Total.
1836	1223	1150	2373	1674	595	104	699
1837	1422	1292	2714	1997	584	133	717
1838	1453	1238	2691	2019	526	146	672
1839	1324	1107	2431	1809	483	139	622
1840	1209	1027	2236	1712	413	111	524
1841	1302	1146	2448	1813	504	131	635
1842	1422	1233	2655	1969	569	117	686
1843	1341	1179	2520	1913	472	135	607
1844	1491	1388	2879	2242	512	125	637
1845	1566	1541	3107	2383	617	107	724
1846	1658	1585	3253	2495	590	168	758
1847	1966	1829	3795	3024	551	220	771
1848	2181	2052	4233	3312	649	272	921
1849	2317	2259	4576	3519	791	266	1057
Total.	21,885	20,026	41,911	31,881	7856	2174	10,030

It appears from the above table that the deaths of males outnumbered those of females by 1859, or 8¼ per cent. But, if we compare the numbers for each year, we shall find considerable variation; the excess of male mortality being as low as 1.6 per cent. in 1845, and as high as 16.4 per cent. in 1839. (In these estimates, the still-born are excluded, the sexes of the still-born not being specified in the reports.)

Ratio of Mortality to the Population.—This can only be determined with certainty for the year 1840, inasmuch as that is the only year in the series for which the population of the city is ascertained. In that year (excluding the still-born, which amounted to 191), the number of deaths is found to be 1 in 50.13 of the general population. The number of still-born belonging to the three classes of the population not being distinguished in the reports of the Board of Health, we cannot determine with precision whether, and how far, the rate of mortality in 1840 varied in those classes. But, if we make the reasonable assumption that the still-births among the whites, free blacks, and slaves, were in proportion to their respective numbers, we find that the rate of mortality was as follows: in the white population, 1 in 52.11; in the free coloured 1 in 47.36; in the slave population, 1 in 30.59.

The rate of mortality for the year 1840, however, cannot be regarded as a

fair expression of the *average* proportion of deaths, since in that year the number of deaths was unusually small; being, indeed, less than in any other year in the series. It also appears, from the tables given by Dr. Emerson in the number of this Journal for July, 1848, that the mortality in Philadelphia was remarkably small in that year, having been proportionally lower than in any other year of the decennial series embraced in Dr. Emerson's calculations.

A very near approximation to the average ratio of mortality in Baltimore may be made, by assuming the population in 1840 to represent the *average* population during a series of nine years—including that year, the four years preceding, and the four years following—and by comparing with this population the average mortality of the nine years, excluding the still-born. By applying this method to the Philadelphia tables, I have found that the ratio of mortality, determined by calculation, varies but a very small fraction of one per cent. from that which the statistics establish.

Proceeding in this way, we find that the average rate of mortality for the nine years was,

In the general population, .	.	.	.	.	1 in 45.42
" white "	.	.	.	.	1 in 46.40
" free coloured "	.	.	.	.	1 in 37.17
" slave "	.	.	.	.	1 in 26.59

These rates, although considerably higher than those of the healthy year 1840, are nevertheless extremely favourable to the salubrity of Baltimore, and will compare advantageously with those of other large towns, whether in this country or in Europe. They are even lower than those given for Philadelphia by Dr. Emerson, in the paper just now referred to, leaving out of the calculation the years in which epidemic cholera prevailed in that city. It must be born in mind, that neither of the years in which the cholera at its first visitation ravaged this country, is embraced in our series; and, as for the year 1849, the cases of cholera occurring in Baltimore, if any, were few in number.

The comparatively high rate of mortality among the coloured inhabitants is no less remarkable here than in other American cities, and finds abundant explanation in the miserably bad hygienic conditions in which the black population is for the most part placed.

Influence of the Seasons on Mortality.—It is only for the last five years of the series that we are able to determine the number of interments for each month separately. The following table exhibits the mortality of the general population for each month of those years, as well as that of the whites and blacks respectively.

	January.			February.			March.			April.			May.			June.		
	Whites.	Col'd.	Total.	Whites.	Col'd.	Total.	Whites.	Col'd.	Total.	Whites.	Col'd.	Total.	Whites.	Col'd.	Total.	Whites.	Col'd.	Total.
1845	237	51	288	161	54	215	158	56	214	177	66	243	218	59	277	171	61	232
1846	219	66	285	235	68	303	288	90	378	187	47	234	173	62	235	227	69	296
1847	183	47	230	180	48	228	231	84	315	187	51	238	239	74	313	270	54	324
1848	289	74	363	272	67	339	256	76	332	220	71	291	290	74	364	325	68	393
1849	266	87	353	225	67	292	260	65	325	260	95	355	223	74	297	233	94	327
Total	1194	325	1519	1073	304	1377	1193	371	1564	1031	330	1361	1143	343	1486	1226	346	1572

	July.			August.			September.			October.			November.			December.		
	Whites.	Col'd.	Total.	Whites.	Col'd.	Total.	Whites.	Col'd.	Total.	Whites.	Col'd.	Total.	Whites.	Col'd.	Total.	Whites.	Col'd.	Total.
1845	250	66	316	238	62	300	177	45	222	193	59	252	193	78	271	210	67	277
1846	190	67	257	235	81	316	193	50	243	197	46	243	197	65	262	144	57	201
1847	379	83	462	447	88	535	250	65	315	207	59	266	237	63	300	214	55	269
1848	505	133	638	287	76	363	232	64	296	261	78	339	188	72	260	187	68	255
1849	488	143	631	436	124	560	348	92	440	328	90	418	219	57	276	233	69	302
Total	1812	492	2304	1643	431	2074	1200	316	1516	1186	332	1518	1034	335	1369	988	316	1304

The following table presents a more perspicuous view of the relative mortality of the different months, the aggregates for the five years being alone given, and the months being arranged according to the number of deaths reported in each, due allowance being made for the unequal length of the months. The short months are all equalized to thirty-one days. It will be seen that the order differs materially for the white and the coloured populations, although July and August stand at the head of the list, and December at the foot, in both cases.

White Population.		Coloured Population.		General Population.	
1. July	1812	July	492	July	2304
2. August . . .	1643	August . . .	431	August . . .	2074
3. June	1267	March	371	June	1624
4. September .	1240	June	357	September . .	1566
5. January . .	1194	November . .	346	March . . .	1564
6. March . . .	1193	May	343	January . . .	1519
7. October . .	1186	April	341	October . . .	1518
8. February . .	1177	February . . .	334	February . .	1511
9. May	1143	October . . .	332	May	1486
10. November .	1068	September . .	326	November . .	1414
11. April . . .	1065	January . . .	325	April	1406
12. December .	988	December . .	316	December . .	1304

The foregoing tables afford us data for determining the relative influence of the seasons on the mortality of the white and black races. Although the comparison shows that the summer months are most fatal to each race, and the winter months the least so, they prove that the proportion of deaths occurring in the warmest and the coldest seasons respectively, is different in the two classes. Thus, we find from the last table that the mortality of the white

population in the three winter months is 3359; in the three summer months
it is 4722. For the negro population, the numbers are 975 and 1280. It
appears, therefore, that for every 100 white persons dying in winter, about
141 die in summer; while for every 100 coloured persons who die in winter,
the summer months destroy only 131. From an examination of the statistics
given by Dr. Emerson, in his paper of July, 1848, I find that a similar and
somewhat greater difference of proportion occurs in Philadelphia. The winter
and summer interments of the whites are as 100 to 129; those of the coloured
inhabitants as 100 to 116.

It also appears that the proportions of deaths occurring in spring and au-
tumn are different—indeed quite reversed—in the two classes. Of the white
population, a somewhat larger number (3494) dies in autumn than in spring
(3401); while of the black population, the deaths in spring (1055) are
rather more numerous than those occurring in the autumnal months (1004).

Mortality at Different Ages.—In the following table, the proportion of
deaths occurring at different periods of life is exhibited. It embraces a series
of five years, 1845–9, during which the total number of deaths, exclusive of
still-born, was 17,330. In one column, the actual number dying at each age
is given; and in another, the proportion in every 100 deaths.

Under 1 year	4436 equal to 25.59 per cent.
Between 1 and 2 years . .	1886 " 10.88 "
" 2 and 5 " . .	1979 " 11.42 "
" 5 and 10 " . .	883 " 5.09 "
" 10 and 21 " . .	950 " 5.48 "
" 21 and 30 " . .	1652 " 9.53 "
" 30 and 40 " . .	1735 " 10.01 "
" 40 and 50 " . .	1316 " 7.59 "
" 50 and 60 " . .	824 " 4.75 "
" 60 and 70 " . .	727 " 4.19 "
" 70 and 80 " . .	578 " 3.34 "
" 80 and 90 " . .	269 " 1.55 "
" 90 and 100 " . .	79 " 0.45 "
100 and upwards . . .	26 " 0.15 "

(It should be stated that, for the year 1849, the deaths from 10 to 30
years are classified in a different mode from that adopted for the other four
years; the division being into three periods; viz., 10 to 15, 15 to 20,
and 20 to 30 years. In the table, however, this difference is, for the sake of
convenience, disregarded, and the decennial periods, 10—20 and 20—30,
are supposed to correspond to the periods 10—21 and 21—30, adopted in
the reports of the four previous years.)

It appears from the above table that more that one-fourth of the whole
number of deaths occurs within the first year of life; and that *nearly one-half*
are under the fifth year—47.89 per cent. In order to acquire more exact

ideas in regard to this excessive infantile mortality, let us endeavour to ascertain what relation it bears to the population which it affects.

As the population under 5 years, in the year 1840, is given only for the whites, there being no subdivision of the first 10 years in the enumeration of the coloured inhabitants, it is impossible to ascertain with precision the whole number living under 5 years. But if we assume that, of the coloured inhabitants under 10 years, the numbers belonging to the first and last halves of this period have the same proportion as in the white population—and this assumption cannot lead us into any great error—we find that the whole number living under 5 years was 15,491; while that between 5 and 10 was 11,270. Now, if we apply to the whole number of deaths for that year (excluding of course the still-born) the proportions given in our last table for the mortality at different ages, the deaths under five years will have amounted to about 979, or more than 1 in 16 of the population living at that age; while in the next period of 5 years, the deaths will have numbered only 104, or about 1 in 108 of the population—the mortality being nearly seven times as great in the first period as in the second.

The mortality in the early years of life seems to have undergone a sensible increase within the last twenty years, in proportion as the city has become more densely populated, and the attendant causes of infantile disease have accumulated. According to a table given by Dr. Dunglison in his *Elements of Hygiene* (p. 114), the deaths in Baltimore under 5 years, in the years 1829, 1830, 1831, and 1833, were 43.84 per cent. of the whole number. We have just seen that in the last five years the proportion was 47.89 per cent. A similar increase appears to have taken place in Philadelphia. According to Dr. Emerson, in the decennial period 1821–30 the average proportion of deaths under 5 years was 38.6 per cent. of the whole; while in the four years 1837–40, it was no less than 49 per cent.

Particular Causes of Mortality.—It is in reference to this important aspect of our subject that the imperfection of the Baltimore statistics is most apparent. The sources from which the records of the Board of Health are made up, are not of that reliable character which would alone entitle us to receive their results with implicit confidence. No certificate of a physician is required as to the fact or the cause of death; the sextons of the different cemeteries being the authorities to which the board refers, not only for the number of weekly interments, but for the particular causes of death. The sextons, in their turn, derive their information on the latter point, sometimes from the physician; sometimes from the family of the deceased individual; sometimes, it may be, from nobody at all. We have here the ready explanation of the looseness of the classification presented in the annual returns of the Board of Health, and of the large number of cases in which the causes of death are "*unknown.*" The tables which follow must be received with the allowance due to the circumstances here stated; they are only to be regarded as presenting an approximation to the truth.

Following the example of Dr. Emerson, I have substituted for the classification of the Board of Health, that proposed at the meeting of the American Medical Association in 1847, by its committee on the subject of a Registration of Deaths, &c. I have, however, departed from the latter plan in some instances, where a strict adherence to it would be clearly wrong. For instance, "bilious fever" I have classed with remittent fevers—the two terms being considered, in all this region, as expressive of one and the same disease —and not with *enteritis*, to which it is referred in the nomenclature ·accompanying the report of the committee. "Congestive fever," which is improperly referred to "typhus" in the nomenclature, I have allowed to stand by itself, as indicating a particular form of periodical fever, the cases of which cannot be referred exclusively either to intermittent or remittent fevers, inasmuch as the congestive or "pernicious" fever may have either of the latter types. "Mumps," again, I have classed with other epidemic diseases, to which it properly belongs; quite as properly, without doubt, as diarrhœa and dysentery, which the plan of the committee places in the same class. Some other particulars in which I have departed from this plan it is unnecessary here to specify.

Tables showing the mortality from different diseases in Baltimore during fourteen years, viz., from 1836 to 1849 inclusive.

Diseases.	1836	1837	1838	1839	1840	1841	1842	1843	1844	1845	1846	1847	1848	1849	Total.
I. ZYMOTIC DISEASES (EPIDEMIC, ENDEMIC, AND CONTAGIOUS).															
Cholera	2		2	2	1		9	8	7	8	4	9	9	32	93
Cholera infantum	191	131	199	125	114	194	198	159	129	113	139	249	244	290	2475
Croup	47	60	45	51	31	26	42	71	56	80	91	127	165	163	1054
Diarrhœa	2			1			2		1			7	15	69	97
Dysentery	25	39	25	16	27	22	25	22	13	13	7	42	46	148	470
Erysipelas			1	4			3	5		4	14	9	10	19	69
Fever, congestive	3	2	6	4	7	10	7	11	4	4	7	1		2	68
" gastric		3	5	8	10	7	12	17	22	36	25	29	20	21	215
" intermittent	3	14	3	1	2	4	14	15	3	3	2	3	2	11	70
" remittent	83	32	37	46	49	38	68	40	44	56	70	44	53	68	728
" typhus	41	14	33	20	13	18	19	10	21	19	20	135	87	161	611
Hooping-cough	43	69	18	75	9	35	63	20	59	62	26	104	59	59	701
Influenza								9		1				4	14
Measles	1	141	4	57	32	6	103	4	1	20	114	7	74	31	595
Mumps			1			2					1		1	2	7
Scarlatina	39	134	141	112	71	74	27	56	370	288	132	166	407	155	2163
Small-pox	1	52	71	2	9	1	1			110	115	1	4	19	386
(Varioloid)		1	1		2							1	1		7
(Varicella)		4	2	1	3	1					1	1		1	14
Syphilis	1			1									1	1	4
Thrush	3	6	6	5	3	6	4	6	2		5	7	7	4	64
II. SPORADIC, OF UNCERTAIN OR GENERAL SEAT.															
Abscess		2	4	1	2	4	2	4	1	1	1	4	2	4	32
Atrophy	27	32	30	18	3	5	5	2		1				1	124
Cancer	10	9	11	7	10	8	9	12	17	12	20	17	10	20	172
Dropsy	50	50	63	60	57	49	44	42	58	44	62	72	79	110	840
Gout		2				2	2	2	1	1	2	1	2	1	16
Hemorrhage	9	4	10	5	13	11	4	14	6	8	10	8	14	6	122
Inflammation	3	1	2	1	1	1	1					1	3		14
Malformation														1	1
Mortification	3	10	3	5	3	6	2	8	5	3	7	5	6	1	67
Scrofula	2	12	11	3	8	5	4	3	2	5	3	3	8	10	79
Sudden death	32	22	21	26	27	25	14	19	13	1	4	14	18	28	264
Tumour	2	1	4	1	5	1	2	3	8	3	9	1	8	1	49

Diseases.	1836	1837	1838	1839	1840	1841	1842	1843	1844	1845	1846	1847	1848	1849	Total.
III. OF THE NERVOUS SYSTEM.															
Apoplexy	22	20	25	29	25	19	22	17	23	16	28	22	19	24	311
Cephalitis, &c.	19	38	25	35	18	27	23	34	34	46	64	89	83	67	602
Chorea		1		1											3
Convulsions	92	90	89	68	55	84	84	58	73	81	73	81	106	97	1135
Delirium tremens									1	3	3	4	6	5	22
Epilepsy			1												1
Hydrocephalus	34	34	43	26	63	64	47	55	50	47	60	70	79	105	777
Insanity	3	7	6		5	3	6	8	9	2	12	15	9	12	97
Neuralgia							1		1			3	1	5	11
Nerves, affections of										2	1				3
Paralysis	13	12	18	12	24	13	1	21	21	28	16	35	34	46	294
Tetanus	4	3	2	3	1	1	5	4	3	1	3	2	5	6	43
Brain, diseases of		1				4	1	3		1	3	3	3	11	30
IV. OF THE ORGANS OF RESPIRATION.															
Asthma	16	4	6	6	8	6	1	1	12	2	3	3	2	7	77
Bronchitis			1		3	5	4	5	6	5	11	8	8	7	63
Catarrhal fever	77	74	67	70	44	99	117	110	75	89	104	132	144	126	1328
Consumption	316	396	410	397	359	454	480	483	510	525	548	590	620	668	6756
Pleurisy	74	66	50	55	47	38	66	87	62	49	35	32	50	69	780
Pneumonia	8	8	9	10	9	7	10	16	31	16	11	51	61	38	285
Quinsy, &c.	4	7	7	4	2	3	1	3	1	7	1	4	1	1	46
Other affections of the throat	1	1	5	3	7	1	1	2	4	1	4	2	1		33
Diseases of the respiratory organs						1		1		1			3	4	10
V. OF THE ORGANS OF CIRCULATION.															
Aneurism	1				1		1								3
Carditis								1							1
Organic diseases of the heart	6	7	4	5	20	17	27	19	30	39	47	30	29	53	333
VI. OF THE DIGESTIVE ORGANS.															
Colic	9	17	7	7	11	8	5	12	5	17	11	5	12	12	138
Colica pictonum		1					1	2						1	5
Dentition	16	28	21	15	21	28	29	29	16	19	42	69	92	102	527
Dyspepsia	4	1	3		4	3	2	1	3	1	6	9	5	8	50
Enteritis	15	10	14	20	21	23	36	46	37	34	51	60	67	47	481
Gastritis	3	3	3	2	1	1	3	4	6	2		3	2	4	37
Hernia	2				2	1	2	1	1		1	1	3		14
Intussusception													1		1
Peritonitis.														1	1
Ulceration of bowels										1	1				2
Worms	13	18	20	15	4	8	3	5	7	7	12	6	14	7	139
Diseases of stomach and bowels	1	1		1					1		1			4	9
Hepatitis		1					1	2	2			18	8	12	44
Jaundice	6	2	3	2	1	1	4	3	5		1	1	5	3	37
Liver, diseases of	18	13	13	10	11	7	13	6	13	13	16				133
Spleen, "					2			1							3
VII. OF THE URINARY ORGANS.															
Diabetes												1			1
Cystitis	1	1		1		1				1	1	2	1		9
Gravel and stone	1	2	3	4	4	1	3	2	3	5	1	4		2	35
Nephritis	1	2		2		1	2	1		1	1	2	2	4	19
Prostate gland, diseases of		1													1
VIII. OF THE GENERATIVE ORGANS.															
Childbirth	18	29	28	21	20	31	14	21	29	34	36	35	62	78	456
Puerperal fever														1	1
Amenorrhœa													1		1
Dysmenorrhœa		1													1
Inflammation of womb				2						1					3
Diseases of womb						1	1		2	1	2		1	2	8
IX. OF THE ORGANS OF LOCOMOTION.															
Rheumatism	2	5	5	6	9	6	10	7	6	6	4	7	5	9	87
Joints, diseases of									2			1	2		5
Hip, "			1	1		1	2			1			1		7
Spine, "	1	3	3	2	8	3	3	9	3	10	8	3	5	8	69

Diseases.	1836	1837	1838	1839	1840	1841	1842	1843	1844	1845	1846	1847	1848	1849	Total.
x. OF THE INTEGUMENTARY SYSTEM.															
Ulcer	1			2		1			1						5
Skin, Diseases of														1	1
Carbuncle				1											1
xi. OLD AGE.	137	93	94	118	96	94	98	120	93	97	129	144	156	171	1640
xii. EXTERNAL CAUSES.															
Accident	31	28	33	24	20	27	55	21	27	37	37	34	39	37	450
Burns and Scalds	14	15	16	12	16	10	7	8	10	13	8	12	17	15	173
Drowned	25	39	23	35	22	27	26	24	27	34	40	34	31	25	412
Executed													1		1
Cold	5	2	3	3	3	1	2	4	1	3	1	5	1	7	41
Heat (ictus solis)			3	3		2						1	1		10
Drinking cold water	1		28			2			1	5	9	1		9	56
Hydrophobia	1			2				1					2		6
Infanticide	1		2	1		1	1	2	4	3	2	1	1	1	20
Intemperance	50	35	47	30	35	29	18	15	10	20	16	16	23	33	377
Lightning								1			1		1		3
Murder			1					1	1						3
Poison	2	1		1	2		2	4	3	4	2	1	3		25
Strangulation								2	1			1			4
Suicide	10	5	6	3	7	3	5	1	5	6	4	3	5	4	67
Wounds, &c.	4	12	4	2	4	4	2	5	6	1	11	3	4	5	67
Fracture		1													1
Amputation								1				1	1		3
Bite of a dog							1								1
Sting of a spider	1						1		1	1					4
" wasp				1											1
Causes unknown { Infants	478	516	535	515	468	487	490	446	466	575	533	587	489	618	7203
Causes unknown { Adults	16	13	30	20	46	29	25	47	82	85	87	96	178	137	891
Still-born	181	196	215	171	191	201	178	187	214	211	257	381	372	411	3366

RECAPITULATION.

CLASS   i. Zymotic Diseases . . . . : . . . 9905
"   ii. Of General or Uncertain Seat (Sporadic) 1780
"   iii. Of the Nervous System 3329
"   iv. Of the Respiratory Organs 9378
"   v. Of the Organs of Circulation 337
"   vi. Of the Digestive Organs 1621
"   vii. Of the Urinary Organs 65
"   viii. Of the Generative Organs 470
"   ix. Of the Organs of Locomotion 168
"   x. Of the Integumentary System 7
"   xi. Old Age 1640
"   xii. External Causes 1725
     Causes Unknown 8094
     Still-born 3366

Deducting from the aggregate mortality for the fourteen years (41,911) the deaths from causes unknown, or not specified, and the still-births, we have a remainder of 30,451, constituting the number properly subject to analysis. This large reduction, however, falls chiefly upon infantile diseases, less than one-ninth of the very large number of deaths by causes unknown belonging to the adult class; a proportion amounting probably to not more that one in twenty, (if so much) of the whole adult mortality.

Of the different classes of diseases, it will be observed that the greatest number of deaths is due to the "zymotic" class; the mortality under this head amounting to nearly one-third of the whole mortality from ascertained causes. Cholera infantum and scarlatina take the lead in this class; indeed,

with the single exception of consumption, their ravages are not equalled by those of any other disease in the whole catalogue.

Only 93 deaths are assigned to "cholera;" and, in the reports of the Board of Health, not one of these is attributed to Asiatic or epidemic cholera, all being set down to "cholera morbus" (except one in 1845, registered simply "cholera"). It is nevertheless by no means certain that Baltimore was so fortunate, during the year 1849, as to escape entirely the visitation of cholera which ravaged the cities north, south, and west of it. I have been informed by intelligent practitioners of Baltimore, that a few cases of well-marked Asiatic cholera were observed by them in their own practice; although it would seem that the deaths from this source were either reported to the Board of Health as cases of common cholera, or were set down to this latter disease, owing to the existence of some doubt as to their true nature. That something more than common cholera was present, is rendered highly probable by the fact that the deaths attributed to cholera morbus in 1849 (32 in number) exceed the aggregate of the four preceding years. It will be further noticed that the same unusual mortality from other bowel affections, which attended the prevalence of cholera elsewhere, existed to a considerable degree in Baltimore. The total number of deaths from cholera morbus, cholera infantum, diarrhœa, and dysentery, was 539, against 314 in the year 1848.

Although these facts show that the *cholera influence*, which diffused itself with such fatal intensity over the land, *was felt* in Baltimore, it cannot but appear singular that it did not manifest itself in a more virulent and epidemic form, while the disease was committing such fearful ravages at the Baltimore city and county almshouse, situated at a distance of less than three miles from the city. That there is nothing in the locality or other permanent conditions to account for this comparative immunity, is proved by the fact that Baltimore suffered severely from the epidemic of 1832, and to a less extent from that of 1834.

The deaths by cholera at the almshouse last year are not reported in the annual statement of the Board of Health, because the interments at that establishment are never reported in the city returns, although a portion of the paupers inhabiting it are sent thither from the city.

Among the fevers mentioned in the table, there is one which is rarely met with in bills of mortality; I allude to "gastric fever," which appears to be an important cause of mortality in Baltimore, no less than 215 deaths being assigned to it—an average of 15 per annum. Let it not be inferred, however, that this gastric fever is a disease peculiar in its nature, and limited in its prevalence to the city of Baltimore. The term is used by a portion of the profession, and by the public, who derive it from them, to designate what others call *typhoid fever.* This is true, at least, of the majority of the cases so termed; but, as the same designation is sometimes vaguely applied to other febrile affections accompanied by gastro-intestinal disturbance, I have thought it best to let all the cases termed gastric fever stand as they are registered,

since they cannot all be referred with certainty either to typhoid fever, or to any other given class.

Under the head of typhus fever are given, not only the cases registered as such, but a few cases of "nervous" and "inflammatory" fever, as well as all the cases of "ship fever," of which 106 fatal cases are recorded in the year 1847, 7 in 1848, and 14 in 1849.

In the second class, including diseases of general or uncertain seat, I have ranged under the head of "inflammation" only those cases in which the seat of the inflammation is not specified, and one case of ophthalmia, recorded in the year 1839. The cases set down to "atrophy" are all recorded as "marasmus" in the classification of the Board of Health. The gradual diminution of the annual numbers under this vague head must be regarded as indicative of a decided improvement, either in the diagnosis of physicians, or in the system of registration; and the same remark may be made of the *sudden deaths* recorded in the table.

Class III. Diseases of the nervous system. Under the head of "cephalitis," are included all the cases registered as "inflammation of the brain" and "phrenitis;" 30 cases are enumerated under the latter title, the remaining 572 under the former. No deaths from delirium tremens are registered prior to 1844; they are doubtless included under the general head of intemperance in a subsequent class. Of the 30 cases assigned to "diseases of the brain," 23 are recorded as "congestion oft he brain;" the remaining 7 "concussion."

Class IV. Diseases of the organs of respiration. The diseases belonging to this class are next in fatality to the zymotic class, the deaths due to them in fourteen years numbering 9378; and nearly three-fourths of this great number (6756) are the victims of consumption. Compared with this fearful aggregate, the mortality from any other disease appears trifling; no three other diseases in the catalogue have destroyed so many lives. What are the occasional ravages even of Asiatic cholera, with all its horrors, compared to the merciless and unceasing inroads of this greatest enemy of the human family? Baltimore, it is clear, can claim no advantage over the other great cities of this Union as regards the prevalence and fatality of phthisis. Indeed, according to the most reliable statistics, her condition in this respect is worse than the average. The deaths from consumption in Baltimore are in the proportion of 1 in 6.2 of the whole mortality. If we exclude the still-born, which ought to be done in all such comparisons, the proportion is 1 in 5.7. It might even be maintained that we ought to compare the deaths from consumption with the total number of deaths from *known causes* alone, in order to arrive at the true proportion. But this would give an exaggerated result, because the deaths from unknown causes are chiefly infantile, and the deaths from consumption affect principally the adult population. It is enough that *more than one-sixth* of the whole mortality of the live-born is caused by consumption, and that the deaths from this cause in the last fourteen years amount to one-twentieth of the present number of inhabitants!

In order to determine the proportional mortality from this disease in more northern cities, I have examined the tables of mortality of Boston for 21 years, given by Dr. Curtis, in his report to the American Medical Association on the public hygiene of Massachusetts; Dr. Griscom's report of the mortality of New York for 1842; and Dr. Emerson's tables for Philadelphia already referred to. Setting aside the still-born, the proportion which the deaths from consumption bear to the general mortality in these three cities is as follows:—

Boston	-	1 in 6.51
New York	.	1 in 6.33
Philadelphia	.	1 in 7.03

It is proper, however, to add, that Dr. Hayward, from an examination of the statistics of New York for 30 years, gives 1 in 5.547 as the proportion for that city. Supposing this to be the more correct ratio, the Baltimore proportion of 1 in 5.7 is still, as I have said, decidedly higher than the average.

A large number of deaths (1328) is set down to "catarrhal fever." A portion of these cases probably belong to acute bronchitis, but the majority are undoubtedly due to the lobular pneumonia of infants.

A comparison of the numbers assigned to pleurisy and pneumonia shows plainly that popular parlance, rather than scientific accuracy, has controlled the registration of the deaths by these two diseases; for, even were the numbers reversed, the deaths from pleurisy would be too numerous, and those from pneumonia too few. (I should add, that among the 285 deaths by pneumonia are included 16 registered in the reports as "inflammation of the breast.") Of the 10 deaths classed under the general head of "diseases of the organs of respiration," 9 are due to "congestion of the lungs," and 1 to "phthisis laryngea."

In the sixth class, it will be seen that but a single death by peritonitis is recorded. Doubtless the numerous deaths in "childbirth," contained in the eighth class, include the majority of the fatal cases of that disease. A similar remark may be made in reference to the single death attributed to puerperal fever in the latter class. Of the "diseases of the stomach and bowels" not specified in the table, 1 case is set down to piles, 1 to constipation, 1 to an undefined disease of the stomach, and the remaining 6 to congestion of the bowels.

The fatal case of cutaneous disease mentioned in the tenth class is urticaria.

The deaths by "old age," 1640 in number, are much too numerous, amounting to 1 in 24 of the whole. This is one of those terms too often resorted to in bills of mortality to conceal ignorance as to the actual cause of death.

The deaths from external causes amount to 1725. If we exclude from this number the deaths by intemperance, and consider only those due to the strictly accidental and violent causes, we find that they constitute about 1 in 28 of the general mortality. The deaths assigned to intemperance, added to

the 22 from delirium tremens, yield a total of 399 deaths caused directly by drunkenness; and these are few in comparison with the fatal cases of dropsy, of diseases of the nervous system, of the digestive organs, &c., caused indirectly by the abuse of intoxicating drinks.

The suicides amount to 67 for the fourteen years; an average of about 5 per annum, in a population which, for the greater part of the period, has been considerably over 100,000. These facts lend no support to the assertion of some European writers on medical statistics (Balby, Casper, Guerry, and Quetelet), that "suicide is much more frequent in the United States than elsewhere. Next comes England, then France," &c. In Baltimore, the average annual number of suicides is less than 1 in 20,000 of the population; in Philadelphia it is about 1 in 17,300; whereas, in Paris, it is no less than 1 in 3600; and, taking the whole of France, town and country together, it is 1 in 19,000.

The still-births amount to 3366, or about 8.03 per cent. of the aggregate mortality.

In conclusion, I would express the hope that the medical profession of Baltimore will interest themselves in securing the adoption, by the city authorities, of a system of registration more free from objection, and more fruitful of useful results, than that which has hitherto prevailed. In a State possessing but one large city, and in which the country districts are, in general, far from being densely populated, many years will probably elapse before the State Legislature shall be ready to organize a general and complete system of registration for the entire commonwealth. But nothing is wanting to secure the immediate adoption of such a system for the city of Baltimore, but a conviction on the part of the proper authorities that the present plan is defective, and that a better and more useful one might be carried into effect with but little or no increase of expense and trouble. Their common sense would teach them that, if it is worth while to have a registry at all, it is worth while to have a good one; and the Board of Health would doubtless cheerfully bear testimony with the rest of the profession that the present *is not a good one.*

ART. II.—*Extracts from the Records of the Boston Society for Medical Improvement.* By WM. W. MORLAND, Secretary.

April 8.—*Hydrometra.* Case reported by Dr. D. H. STORER.—The patient was a large and very fleshy woman, thirty-five years of age, and weighed about 230 pounds. In June, 1849, I saw her for the first time, and received the following history : that she had been married three times, and had borne five